

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A molecular ~~binding~~bonding method comprising steps of:

preparing a support having fixed thereon an intermediate excitation medium the composition of which is the same before and after excitation and after transfer of excitation energy or electrons;

arranging said intermediate excitation medium on said support so as to face at a specific distance either one or both of a first molecule having a ~~binding~~bonding residue and a ~~binding~~bonding target to be ~~bound~~bonded to said first molecule; and

~~binding~~bonding said first molecule, which is in the vicinity of said intermediate excitation medium which has been excited, with said ~~binding~~bonding target by supplying external energy to said intermediate excitation medium so as to excite said intermediate excitation medium.
2. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 1, wherein said step of ~~binding~~bonding is a step of ~~binding~~bonding with either one or both of said first molecule and said ~~binding~~bonding target fixed on a fixing member.
3. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 2, wherein said step of preparing a support is a step of preparing a support having a relief or uneven pattern, the pattern having provided thereon with said intermediate excitation medium, and wherein said step of ~~binding~~bonding is a step which uses, of said intermediate excitation medium which has been excited, only said intermediate excitation medium on the protruding parts of said relief or

uneven pattern.

4. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 2, wherein said step of preparing a support is a step of preparing a support having one or more than one of said intermediate excitation medium fixed on the tip thereof, and wherein said step of ~~binding~~bonding is a step of using said intermediate excitation medium which has been excited on said tip.

5. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 2, wherein said ~~binding~~bonding is accomplished with said support positioned accurately enough with respect to said fixing medium so as to achieve said ~~binding~~bonding.

6. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 5, wherein said binding is accomplished with said accuracy of 1 nm or less.

7. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 1, wherein said ~~binding~~bonding is accomplished by means of ~~binding~~bonding energy which moves from said intermediate excitation medium which has been excited to said first molecule.

8. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 7, wherein movement of ~~binding~~bonding energy from said intermediate excitation medium to said first molecule is accomplished by excited triplet energy transfer.

9. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 1, wherein said binding is accomplished due to transfer of electrons between said intermediate excitation medium which has been excited and said first molecule.

10. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 1, wherein said external energy is supplied by supplying light, electrons or ions to said intermediate excitation medium.

11. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 10, wherein, when said intermediate excitation medium is a photosensitized molecule, said external energy is supplied by exposure to said light.

12. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 11, wherein a N-acetyl-4-nitro-1-naphthylamine derivative is used as said photosensitized molecule.

13. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 9, wherein, when said intermediate excitation medium is a photocatalyst, said external energy is supplied by exposure to said light.

14. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 13, wherein titanium dioxide is used as said photocatalyst.

15. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 1, wherein a second molecule having a ~~binding~~bonding residue is used as said binding target.

16. (Currently Amended) The molecular ~~binding~~bonding method according to Claim 1, wherein a material body other than a molecule is used as said ~~binding~~bonding target.

17. (Currently Amended) A molecular ~~binding~~bonding device comprising:
an intermediate excitation medium the composition of which is the same before and after excitation and after transfer of excitation energy or electrons;
a support on which the intermediate excitation medium is fixed and on which the intermediate excitation medium faces at a specific distance either one or both of a first molecule having a ~~binding~~bonding residue or a ~~binding~~bonding target to be bound to said first molecule; and
an external energy supply source which supplies external energy which excites said intermediate excitation medium and causes said first molecule in the vicinity of said intermediate excitation medium which has been excited to ~~bind~~bond to said ~~binding~~bonding target.

18. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein either one or both of said first molecule and said ~~binding~~bonding target is fixed to a fixing member.

19. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 18,

wherein said support is a support having a relief or uneven pattern provided with said intermediate excitation medium.

20. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 18, wherein said support is a support with one or more than one of said intermediate excitation medium fixed to the tip thereof.

21. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 18, wherein said support is positioned accurately enough with respect to said fixing member so as to achieve said ~~binding~~bonding.

22. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 21, wherein said accuracy is 1 nm or less.

23. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said intermediate excitation medium which has been excited generates ~~binding~~bonding energy which moves from said intermediate excitation medium which has been excited to said first molecule to achieve said ~~binding~~bonding.

24. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said intermediate excitation medium which has been excited accomplishes said ~~binding~~bonding by transfer of electrons between said intermediate excitation medium which has been

excited and said first molecule.

25. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said external energy is light, electrons or ions.

26. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 25, wherein, when said intermediate excitation medium is a photosensitized molecule, said external energy is said light.

27. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 26, wherein said photosensitized molecule is a N-acetyl-4-nitro-1-naphthylamine derivative.

28. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 25, wherein, when said intermediate excitation medium is a photocatalyst, said external energy is said light.

29. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 28, wherein said photocatalyst is titanium dioxide.

30. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said ~~binding~~bonding target is a second molecule having a ~~binding~~bonding residue.

31. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said binding target is a material body other than a molecule.

32. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said intermediate excitation medium is fixed to said support by chemical bonds.

33. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said ~~binding~~bonding residue is an aliphatic residue having an unsaturated double bond or unsaturated triple bond.

34. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 17, wherein said ~~binding~~bonding residue is an aromatic residue having an unsaturated double bond or unsaturated triple bond.

35. (Currently Amended) The molecular ~~binding~~bonding device according to Claim 34, wherein, when said aromatic residue having said unsaturated double bond is a cinnamic acid residue, said intermediate excitation medium is N-[3-{3,5-bis{3,5-bis[3,5-bis(4-mercaptobenzylthio)benzylthio]benzylthio}benzyloxy}-propionyl-4-nitro-1-naphthylamine.